L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
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DOCUMENT NUMBER: 141:157893
ENTRY DATE: Entered STN: 30 Jul 2004
TITLE: Novel monofunctional polyethylene glycol aldehydes useful for pegylation
INVENTOR(S): Rosen, Perry; Nho, Kwang
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. Ser. No. 661,268.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C08G065-32
US PATENT CLASSIF.: 525389000; 525403000
CLASSIFICATION: 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE	
US 2004147687	A1	20040729	US 2003-715607		20031118	<--
KR 2003048293	A	20030619	KR 2001-78244		20011211	
US 2003153694	A1	20030814	US 2002-303260		20021125	
US 2004034188	A1	20040219	US 2003-431294		20030507	
US 6916962	B2	20050712				
US 2004122164	A1	20040624	US 2003-661268		20030912	
PRIORITY APPLN. INFO.:			KR 2001-78244	A	20011211	
			US 2002-348452P	P	20020116	
			US 2002-381503P	P	20020517	
			US 2002-407741P	P	20020903	
			US 2002-303260	A2	20021125	
			US 2003-431294	A2	20030507	
			US 2003-661268	A2	20030912	

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
US 2004147687	ICM	C08G065-32	
	INCL	525389000; 525403000	
US 2004147687	NCL	525/389.000; 525/403.000	
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U	<--
US 2003153694	NCL	525/523.000; 558/260.000; 560/157.000; 564/060.000	
	ECLA	C08G065/329; C08G065/331; C08G065/333U	
US 2004034188	NCL	528/230.000; 528/250.000	
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U	
US 2004122164	NCL	525/054.100; 528/230.000; 525/526.000	
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U	

ABSTRACT:
The present invention provides novel monofunctional polyethylene glycol aldehydes for the pegylation of therapeutically active proteins. The pegylated protein conjugates that are produced, retain a substantial portion of their therapeutic activity and are less immunogenic than the protein from which the conjugate is derived. New syntheses for preparing such aldehydes are described.

SUPPL. TERM: polyethylene glycol aldehyde therapeutic active protein

pegylation

INDEX TERM: Polyoxyalkylenes, preparation
ROLE: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(aldehyde derivs.; novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

INDEX TERM: Proteins
ROLE: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pegylation of; novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

INDEX TERM: **6318-30-5P 58320-73-3P 67665-18-3P**
, Methoxypolyethylene glycol acetic acid **67665-19-4P**
, Methoxypolyethylene glycol ethyl acetate
124661-64-9P 135649-01-3P
146167-55-7P 544706-94-7P
544706-96-9P 544707-00-8P
544707-01-9P 544707-03-1P
544707-04-2P 544707-06-4P
658083-74-0P 658083-75-1P
727741-77-7P
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

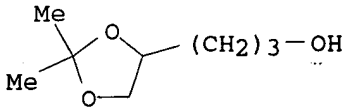
INDEX TERM: **79-10-7DP**, Acrylic acid, addition products with methoxypolyethylene glycol, ester with hydroxysuccinimide, amide derivative, urethane propionaldehyde **6066-82-6DP**
, N-Hydroxysuccinimide, ester with methoxypolyethylene glycol acrylic acid addition product, amide derivative, urethane propionaldehyde **9004-74-4DP**, Methoxypolyethylene glycol, addition products with acrylic acid, ester with hydroxysuccinimide, amide derivative, urethane propionaldehyde **41365-75-7DP**, displacement reaction products with hydroxysuccinimide esterified methoxypolyethylene glycol acrylic acid addition product, deacetalized compound
533881-58-2P 544706-95-8P
544706-97-0P 544706-99-2P
544707-02-0P 544707-05-3P
544708-06-7P
ROLE: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

INDEX TERM: **67-64-1**, Acetone, reactions **98-59-9**, Tosyl chloride **105-36-2**, Ethyl bromoacetate **1659-31-0**, Di-2-pyridyl carbonate **6066-82-6**
, N-Hydroxysuccinimide **7693-46-1**, 4-Nitrophenyl chloroformate **9004-74-4**, Methoxypolyethylene glycol **14533-84-7**, Pentafluorophenyl trifluoroacetate **14697-46-2**, Pentane-1,2,5-triol **19060-15-2 32315-10-9**, Triphosgene **41365-75-7 80506-64-5 125220-94-2**
, Methoxypolyethylene glycol propionic acid
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for

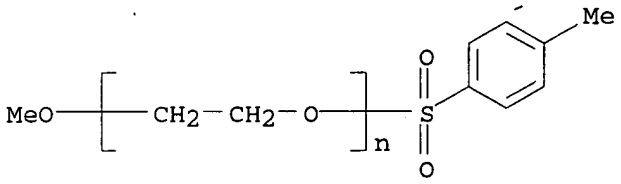
pegylation of therapeutically active proteins)

IT **6318-30-5P 58320-73-3P 67665-18-3P,**
Methoxypolyethylene glycol acetic acid **67665-19-4P,**
Methoxypolyethylene glycol ethyl acetate **124661-64-9P**
135649-01-3P 146167-55-7P 544706-94-7P
544706-96-9P 544707-00-8P 544707-01-9P
544707-03-1P 544707-04-2P 544707-06-4P
658083-74-0P 658083-75-1P 727741-77-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

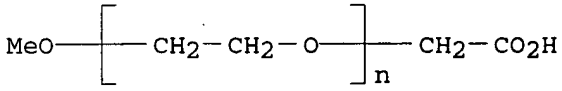
RN 6318-30-5 CAPLUS
CN 1,3-Dioxolane-4-propanol, 2,2-dimethyl- (9CI) (CA INDEX NAME)



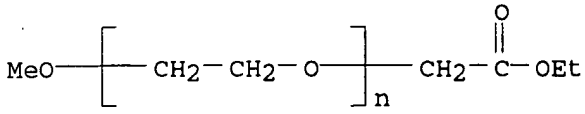
RN 58320-73-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-methylphenyl)sulfonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 67665-18-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-methoxy- (9CI) (CA INDEX NAME)

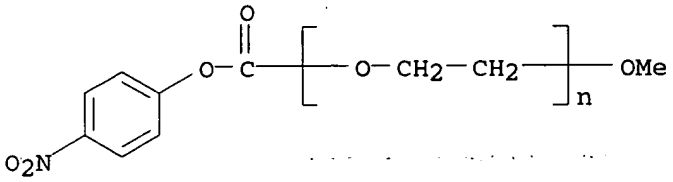


RN 67665-19-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-ethoxy-2-oxoethyl)-ω-methoxy- (9CI) (CA INDEX NAME)

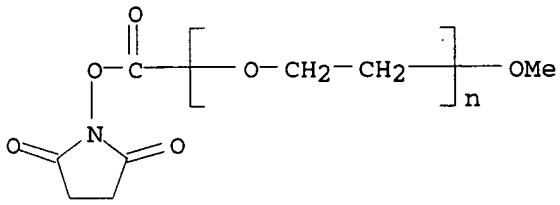


RN 124661-64-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-nitrophenoxy)carbonyl]-ω-

methoxy- (9CI) (CA INDEX NAME)



RN 135649-01-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 146167-55-7 CAPLUS
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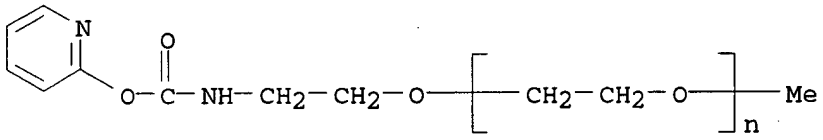
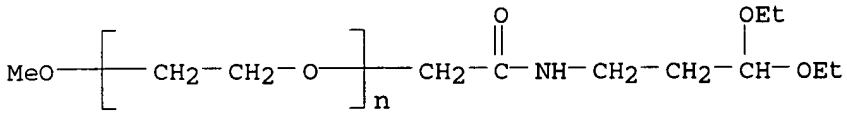
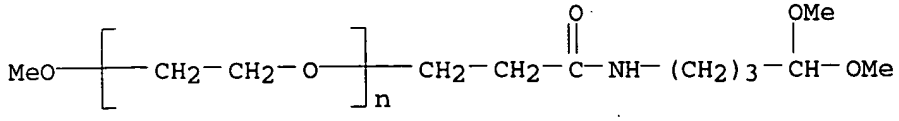


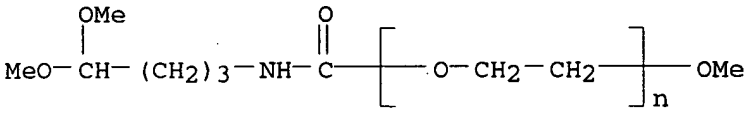
RN 544706-94-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3,3-diethoxypropyl)amino]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



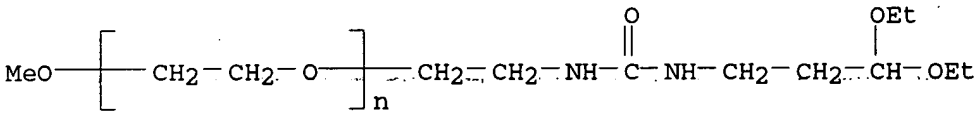
RN 544706-96-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-[(4,4-dimethoxybutyl)amino]-3-oxopropyl]-ω-methoxy- (9CI) (CA INDEX NAME)



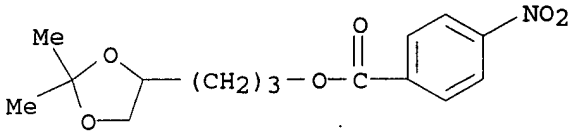
RN 544707-00-8 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4,4-dimethoxybutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



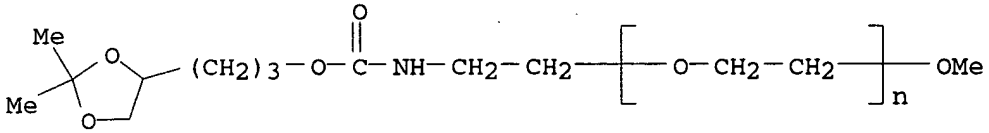
RN 544707-01-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[[(3,3-diethoxypropyl)amino]carbonyl]amino]ethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



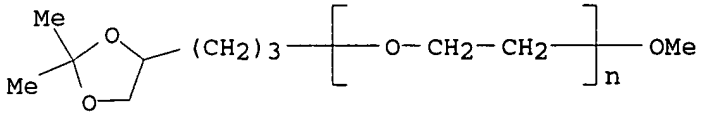
RN 544707-03-1 CAPLUS
CN 1,3-Dioxolane-4-propanol, 2,2-dimethyl-, 4-nitrobenzoate (9CI) (CA INDEX NAME)



RN 544707-04-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[[3-(2,2-dimethyl-1,3-dioxolan-4-yl)propoxy]carbonyl]amino]ethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

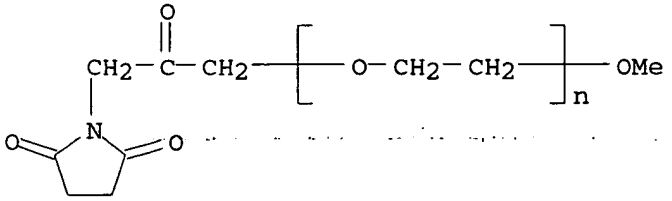


RN 544707-06-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-(2,2-dimethyl-1,3-dioxolan-4-yl)propyl]-ω-methoxy- (9CI) (CA INDEX NAME)

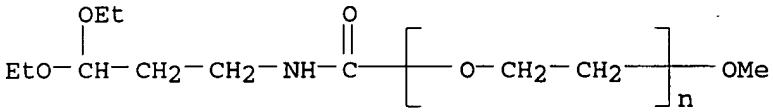


RN 658083-74-0 CAPLUS

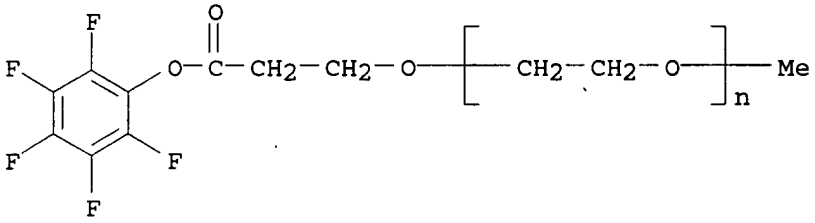
CN Poly(oxy-1,2-ethanediyl), α-[3-(2,5-dioxo-1-pyrrolidinyl)-2-oxopropyl]-ω-methoxy- (9CI) (CA INDEX NAME)



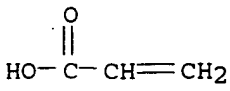
RN 658083-75-1 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3,3-diethoxypropyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



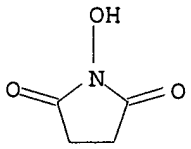
RN 727741-77-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[3-oxo-3-(pentafluorophenoxy)propoxy]- (9CI) (CA INDEX NAME)



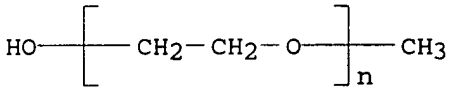
IT **79-10-7DP**, Acrylic acid, addition products with methoxypolyethylene glycol, ester with hydroxysuccinimide, amide derivative, urethane propionaldehyde **6066-82-6DP**, N-Hydroxysuccinimide, ester with methoxypolyethylene glycol acrylic acid addition product, amide derivative, urethane propionaldehyde **9004-74-4DP**, Methoxypolyethylene glycol, addition products with acrylic acid, ester with hydroxysuccinimide, amide derivative, urethane propionaldehyde **41365-75-7DP**, displacement reaction products with hydroxysuccinimide esterified methoxypolyethylene glycol acrylic acid addition product, deacetalized compound **533881-58-2P 544706-95-8P 544706-97-0P 544706-99-2P 544707-02-0P 544707-05-3P 544708-06-7P**
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)
RN 79-10-7 CAPLUS
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



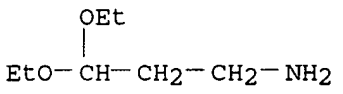
RN 6066-82-6 CAPLUS
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



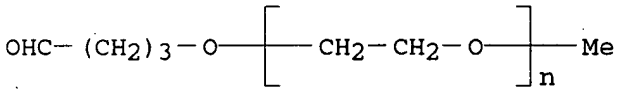
RN 9004-74-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy- (9CI) (CA INDEX NAME)



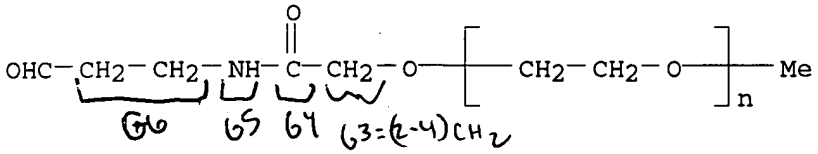
RN 41365-75-7 CAPLUS
CN 1-Propanamine, 3,3-diethoxy- (9CI) (CA INDEX NAME)



RN 533881-58-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-(4-oxobutoxy)- (9CI) (CA INDEX NAME)



RN 544706-95-8 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-oxo-2-[(3-oxopropyl)amino]ethoxy]- (9CI) (CA INDEX NAME)



RN 544706-97-0 CAPLUS

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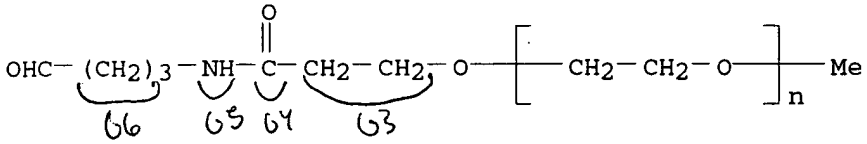
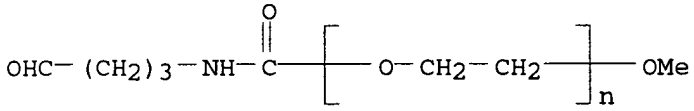
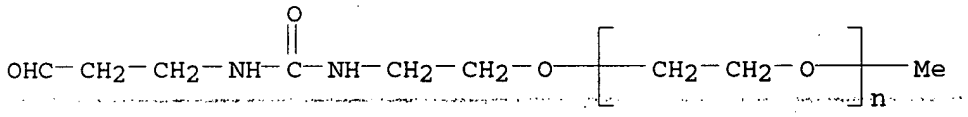


RN 544706-99-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4-oxobutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 544707-02-0 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[[(3-oxopropyl)amino]carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)



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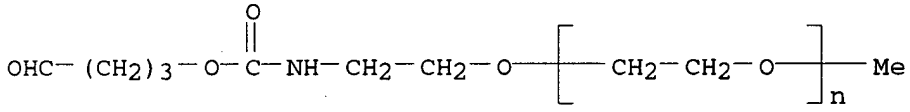
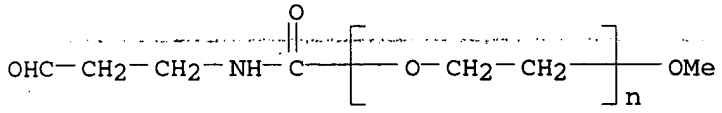


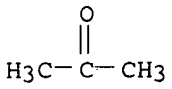
RN 544708-06-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3-oxopropyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



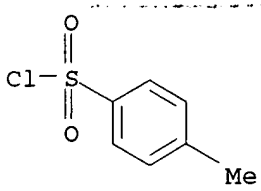
IT **67-64-1**, Acetone, reactions **98-59-9**, Tosyl chloride **105-36-2**, Ethyl bromoacetate **1659-31-0**, Di-2-pyridyl carbonate **6066-82-6**, N-Hydroxysuccinimide **7693-46-1**, 4-Nitrophenyl chloroformate **9004-74-4**, Methoxypolyethylene

glycol **14533-84-7**, Pentafluorophenyl trifluoroacetate
14697-46-2, Pentane-1,2,5-triol **19060-15-2**
32315-10-9, Triphosgene **41365-75-7 80506-64-5**
125220-94-2, Methoxypolyethylene glycol propionic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

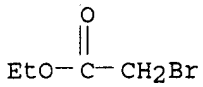
RN 67-64-1 CAPLUS
CN 2-Propanone (9CI) (CA INDEX NAME)



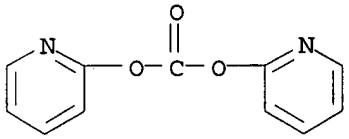
RN 98-59-9 CAPLUS
CN Benzenesulfonyl chloride, 4-methyl- (9CI) (CA INDEX NAME)



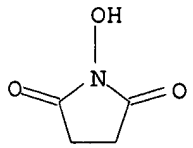
RN 105-36-2 CAPLUS
CN Acetic acid, bromo-, ethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



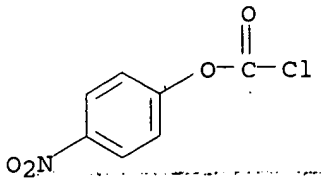
RN 1659-31-0 CAPLUS
CN 2-Pyridinol, carbonate (2:1) (ester) (9CI) (CA INDEX NAME)



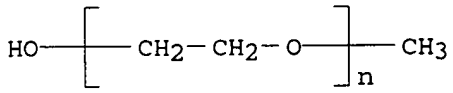
RN 6066-82-6 CAPLUS
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



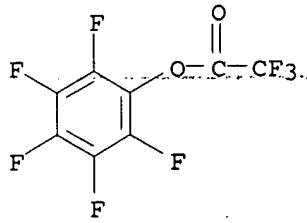
RN 7693-46-1 CAPLUS
CN Carbonochloridic acid, 4-nitrophenyl ester (9CI) (CA INDEX NAME)



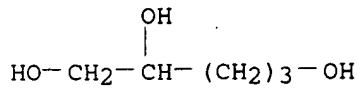
RN 9004-74-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy- (9CI) (CA INDEX NAME)



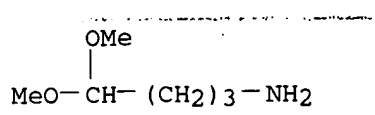
RN 14533-84-7 CAPLUS
CN Acetic acid, trifluoro-, pentafluorophenyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



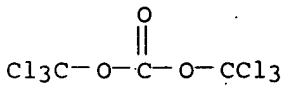
RN 14697-46-2 CAPLUS
CN 1,2,5-Pentanetriol (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



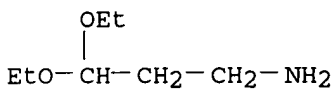
RN 19060-15-2 CAPLUS
CN 1-Butanamine, 4,4-dimethoxy- (9CI) (CA INDEX NAME)



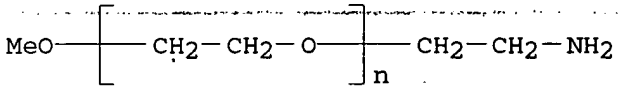
RN 32315-10-9 CAPLUS
CN Methanol, trichloro-, carbonate (2:1) (9CI) (CA INDEX NAME)



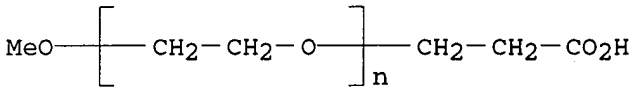
RN 41365-75-7 CAPLUS
CN 1-Propanamine, 3,3-diethoxy- (9CI) (CA INDEX NAME)



RN 80506-64-5 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-aminoethyl)-ω-methoxy- (9CI)
(CA INDEX NAME)



RN 125220-94-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-carboxyethyl)-ω-methoxy- (9CI)
(CA INDEX NAME)



L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:513373 CAPLUS
DOCUMENT NUMBER: 141:72062
ENTRY DATE: Entered STN: 25 Jun 2004
TITLE: monofunctional polyethylene glycol aldehydes, preparation and protein conjugate
INVENTOR(S): Rosen, Perry; Nho, Kwang H.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 23 pp., Cont.-in-part of U.S. Pat. Appl. 2004 34,188.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C08G065-00
SECONDARY: C08G063-48; C08G063-91
US PATENT CLASSIF.: 525054100; 528230000; 525526000
CLASSIFICATION: 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004122164	A1	20040624	US 2003-661268	20030912
KR 2003048293	A	20030619	KR 2001-78244	20011211
US 2003153694	A1	20030814	US 2002-303260	20021125
US 2004034188	A1	20040219	US 2003-431294	20030507
US 6916962	B2	20050712		
US 2004147687	A1	20040729	US 2003-715607	20031118 <--

PRIORITY APPLN. INFO.:

KR 2001-78244	A	20011211
US 2002-303260	A2	20021125
US 2003-431294	A2	20030507
US 2002-348452P	P	20020116
US 2002-381503P	P	20020517
US 2002-407741P	P	20020903
US 2003-661268	A2	20030912

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004122164	ICM	C08G065-00
	ICS	C08G063-48; C08G063-91
	INCL	525054100; 528230000; 525526000
US 2004122164	NCL	525/054.100; 528/230.000; 525/526.000
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U
US 2003153694	NCL	525/523.000; 558/260.000; 560/157.000; 564/060.000
	ECLA	C08G065/329; C08G065/331; C08G065/333U
US 2004034188	NCL	528/230.000; 528/250.000
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U
US 2004147687	NCL	525/389.000; 525/403.000
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U <--

ABSTRACT:
The monofunctional polyethylene glycol aldehydes are used for the pegylation of therapeutically active proteins. The pegylated protein conjugates that are produced, retain a substantial portion of their therapeutic activity and are less immunogenic than the protein from which the conjugate is derived.

SUPPL. TERM: polyethylene glycol aldehyde pegylated protein conjugate

INDEX TERM: Proteins
ROLE: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: Polyoxyalkylenes, preparation
ROLE: BUU (Biological use, unclassified); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **14697-46-2**, Pentane-1,2,5-triol
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(cyclization; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **112344-11-3DP**, Acrylic acid-ethylene oxide graft copolymer, reaction products with hydroxysuccinimide, aminodiethoxypropane, and aldehyde formation
533881-58-2P 544706-95-8P
544706-97-0P 544706-99-2P
544707-02-0P 544707-05-3P
544708-06-7P

ROLE: IMF (Industrial manufacture); PREP (Preparation)
(polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **67665-19-4P 92451-01-9P**
544706-94-7P 544706-96-9P
544706-98-1P 544707-00-8P
544707-01-9P 544707-04-2P
544707-06-4P
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **1659-31-0**, Di-2-pyridyl carbonate **9004-74-4**
, Methoxypolyethylene glycol
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **135649-01-3P 146167-55-7P**
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with aminodiethoxypropane; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **124661-64-9P 174569-25-6P**
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with aminodimethoxybutane; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **58320-73-3P**
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with dioxolanedimethylpropanol; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **80506-64-5**
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with dipyridiyl carbonate; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **67665-18-3P**
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with hydroxysuccinimide; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **125220-94-2**
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hydroxysuccinimide; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **6066-82-6**, N-Hydroxysuccinimide
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methoxypolyethylene glycol acetic acid; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **544707-03-1P**
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with methoxypolyethylene glycol aminoethyl ether; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **19060-15-2**
ROLE: RCT (Reactant); RACT (Reactant or reagent)

(reaction with methoxypolyethylene glycol succinimidyl acetal; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **41365-75-7**
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methoxypolyethylene glycol succinimidyl acetate; polyethylene glycol aldehydes for conjugates with proteins)

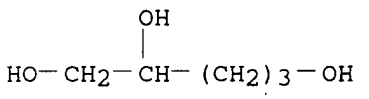
INDEX TERM: **105-36-2**, Ethyl bromoacetate **7693-46-1**, 4-Nitrophenylchloroformate **32315-10-9**, Triphosgene
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methoxypolyethylene glycol; polyethylene glycol aldehydes for conjugates with proteins)

INDEX TERM: **6318-30-5**
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with nitrophenylchloroformate; polyethylene glycol aldehydes for conjugates with proteins)

IT **14697-46-2**, Pentane-1,2,5-triol
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization; polyethylene glycol aldehydes for conjugates with proteins)

RN 14697-46-2 CAPLUS

CN 1,2,5-Pentanetriol (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



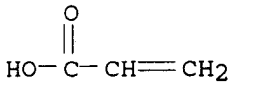
IT **112344-11-3DP**, Acrylic acid-ethylene oxide graft copolymer, reaction products with hydroxysuccinimide, aminodiethoxypropane, and aldehyde formation **533881-58-2P 544706-95-8P 544706-97-0P 544706-99-2P 544707-02-0P 544707-05-3P 544708-06-7P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyethylene glycol aldehydes for conjugates with proteins)

RN 112344-11-3 CAPLUS

CN 2-Propenoic acid, polymer with oxirane, graft (9CI) (CA INDEX NAME)

CM 1

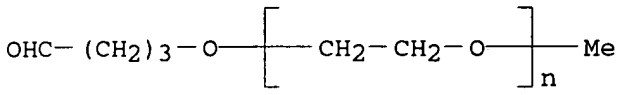
CRN 79-10-7
CMF C3 H4 O2



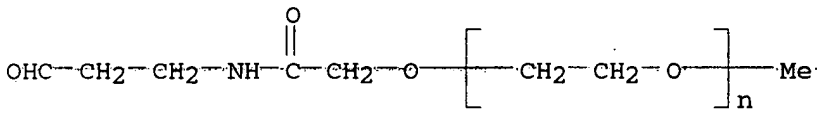
CM 2

CRN 75-21-8
CMF C2 H4 O

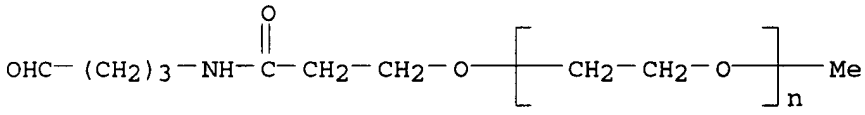
RN 533881-58-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-(4-oxobutoxy)- (9CI) (CA INDEX NAME)



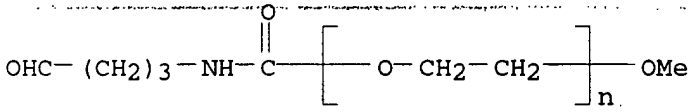
RN 544706-95-8 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-oxo-2-[(3-oxopropyl)amino]ethoxy]- (9CI) (CA INDEX NAME)



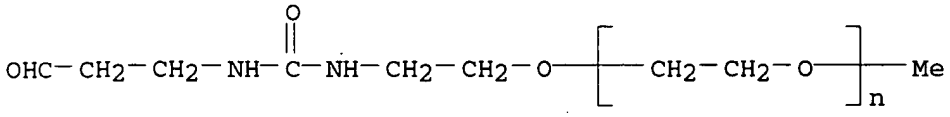
RN 544706-97-0 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[3-oxo-3-[(4-oxobutyl)amino]propoxy]- (9CI) (CA INDEX NAME)



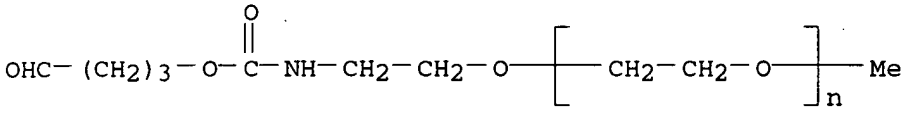
RN 544706-99-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4-oxobutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



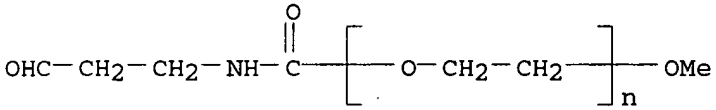
RN 544707-02-0 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[[(3-oxopropyl)amino]carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)



RN 544707-05-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[(4-oxobutoxy)carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)

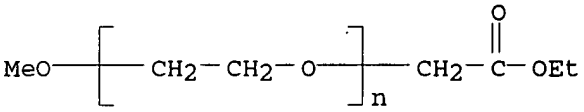


RN 544708-06-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3-oxopropyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)

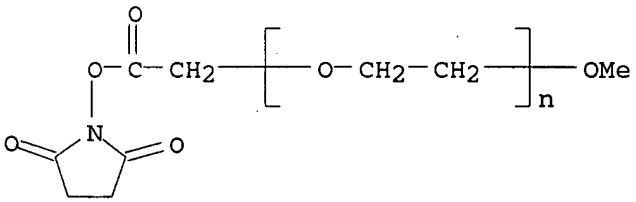


IT **67665-19-4P 92451-01-9P 544706-94-7P**
544706-96-9P 544706-98-1P 544707-00-8P
544707-01-9P 544707-04-2P 544707-06-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyethylene glycol aldehydes for conjugates with proteins)

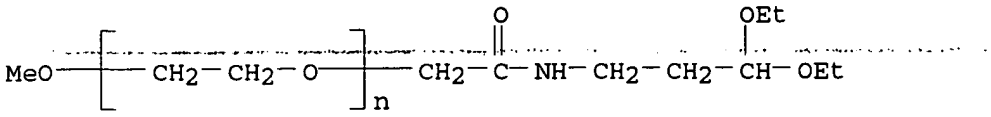
RN 67665-19-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-ethoxy-2-oxoethyl)-ω-methoxy- (9CI) (CA INDEX NAME)



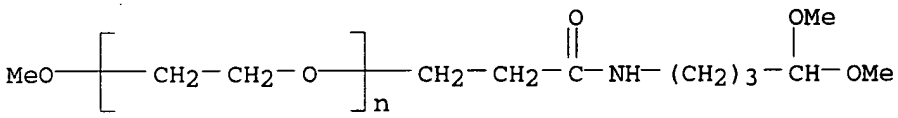
RN 92451-01-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



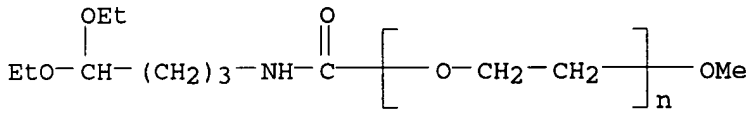
RN 544706-94-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3,3-diethoxypropyl)amino]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



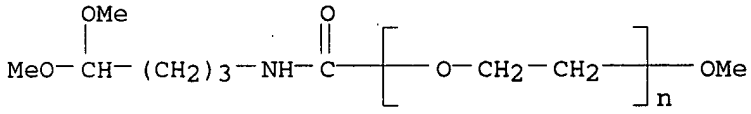
RN 544706-96-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-[(4,4-dimethoxybutyl)amino]-3-oxopropyl]-ω-methoxy- (9CI) (CA INDEX NAME)



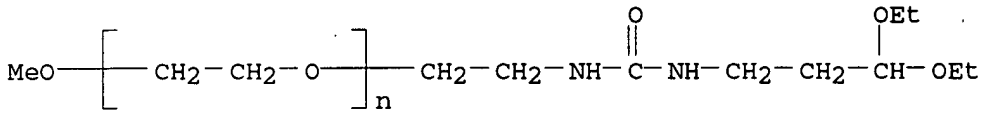
RN 544706-98-1 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4,4-diethoxybutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



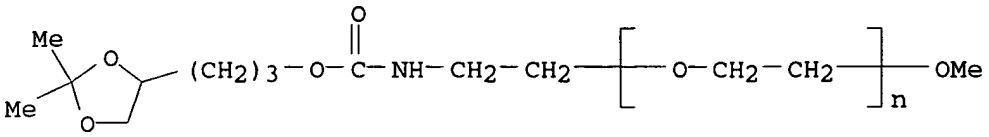
RN 544707-00-8 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4,4-dimethoxybutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



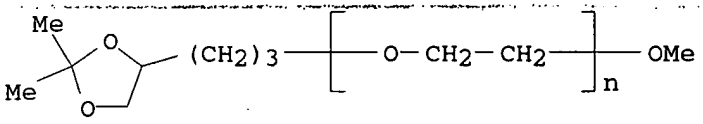
RN 544707-01-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[[(3,3-diethoxypropyl)amino]carbonyl]amino]ethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



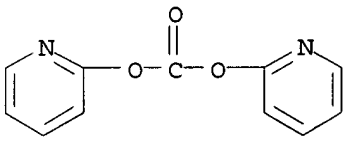
RN 544707-04-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[[3-(2,2-dimethyl-1,3-dioxolan-4-yl)propoxy]carbonyl]amino]ethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



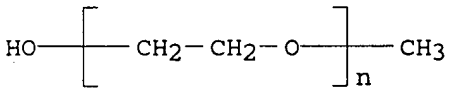
RN 544707-06-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-(2,2-dimethyl-1,3-dioxolan-4-yl)propyl]-ω-methoxy- (9CI) (CA INDEX NAME)



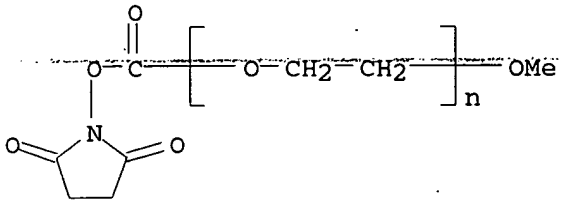
IT **1659-31-0**, Di-2-pyridyl carbonate **9004-74-4**,
Methoxypolyethylene glycol
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyethylene glycol aldehydes for conjugates with proteins)
RN 1659-31-0 CAPLUS
CN 2-Pyridinol, carbonate (2:1) (ester) (9CI) (CA INDEX NAME)



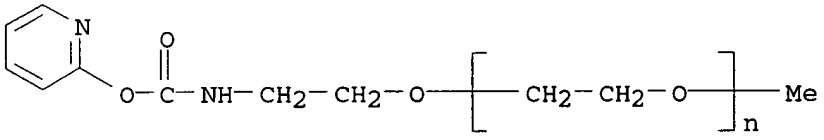
RN 9004-74-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy- (9CI) (CA INDEX NAME)



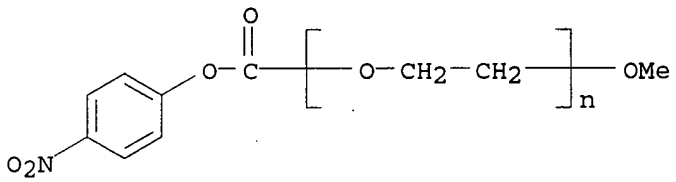
IT **135649-01-3P 146167-55-7P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with aminodiethoxypropane; polyethylene glycol aldehydes for conjugates with proteins)
RN 135649-01-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



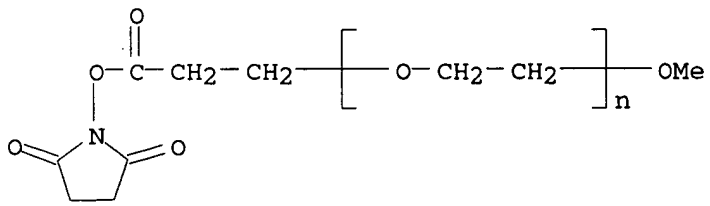
RN 146167-55-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[(2-pyridinyloxy)carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)



IT **124661-64-9P 174569-25-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with aminodimethoxybutane; polyethylene glycol aldehydes for conjugates with proteins)
RN 124661-64-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-nitrophenoxy)carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)

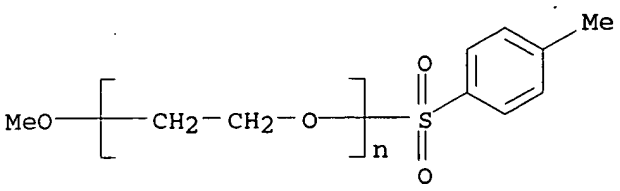


RN 174569-25-6 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-[(2,5-dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]-ω-methoxy- (9CI) (CA INDEX NAME)

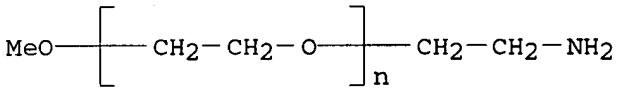


IT **58320-73-3P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with dioxolanedimethylpropanol; polyethylene glycol aldehydes for conjugates with proteins)

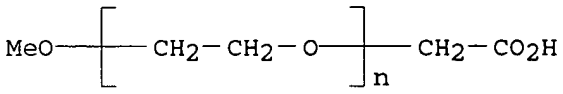
RN 58320-73-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-methylphenyl)sulfonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



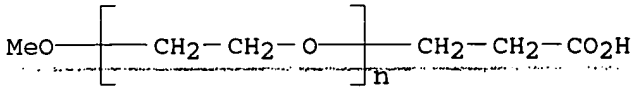
IT **80506-64-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with dipyridiyl carbonate; polyethylene glycol aldehydes for conjugates with proteins)
RN 80506-64-5 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-aminoethyl)-ω-methoxy- (9CI) (CA INDEX NAME)



IT **67665-18-3P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with hydroxysuccinimide; polyethylene glycol aldehydes for conjugates with proteins)
RN 67665-18-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-methoxy- (9CI) (CA INDEX NAME)



IT **125220-94-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hydroxysuccinimide; polyethylene glycol aldehydes for conjugates with proteins)
RN 125220-94-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-carboxyethyl)-ω-methoxy- (9CI) (CA INDEX NAME)

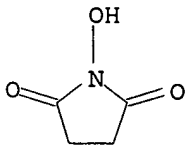


IT **6066-82-6**, N-Hydroxysuccinimide
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with methoxypolyethylene glycol acetic acid; polyethylene glycol aldehydes for conjugates with proteins)

RN 6066-82-6 CAPLUS

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



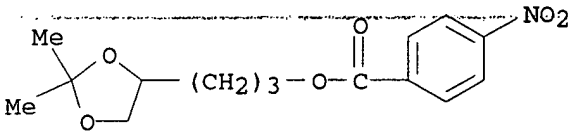
IT **544707-03-1P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(reaction with methoxypolyethylene glycol aminoethyl ether; polyethylene glycol aldehydes for conjugates with proteins)

RN 544707-03-1 CAPLUS

CN 1,3-Dioxolane-4-propanol, 2,2-dimethyl-, 4-nitrobenzoate (9CI) (CA INDEX NAME)



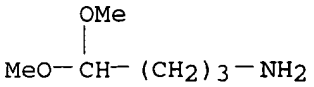
IT **19060-15-2**

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with methoxypolyethylene glycol succinimidyl acetal; polyethylene glycol aldehydes for conjugates with proteins)

RN 19060-15-2 CAPLUS

CN 1-Butanamine, 4,4-dimethoxy- (9CI) (CA INDEX NAME)



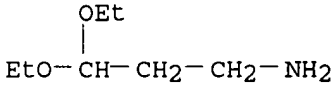
IT **41365-75-7**

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with methoxypolyethylene glycol succinimidyl acetate; polyethylene glycol aldehydes for conjugates with proteins)

RN 41365-75-7 CAPLUS

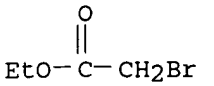
CN 1-Propanamine, 3,3-diethoxy- (9CI) (CA INDEX NAME)



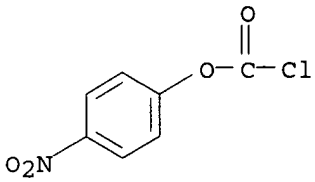
IT **105-36-2**, Ethyl bromoacetate **7693-46-1**, 4-Nitrophenylchloroformate **32315-10-9**, Triphosgene

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methoxypolyethylene glycol; polyethylene glycol aldehydes for conjugates with proteins)

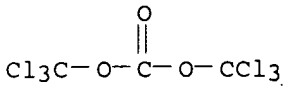
RN 105-36-2 CAPLUS
CN Acetic acid, bromo-, ethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 7693-46-1 CAPLUS
CN Carbonochloridic acid, 4-nitrophenyl ester (9CI) (CA INDEX NAME)

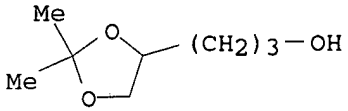


RN 32315-10-9 CAPLUS
CN Methanol, trichloro-, carbonate (2:1) (9CI) (CA INDEX NAME)



IT **6318-30-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with nitrophenylchloroformate; polyethylene glycol aldehydes for conjugates with proteins)

RN 6318-30-5 CAPLUS
CN 1,3-Dioxolane-4-propanol, 2,2-dimethyl- (9CI) (CA INDEX NAME)



L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:142840 CAPLUS
DOCUMENT NUMBER: 140:181998
ENTRY DATE: Entered STN: 22 Feb 2004
TITLE: Novel monofunctional polyethylene glycol aldehydes
INVENTOR(S): Rosen, Perry; Nho, Kwang
PATENT ASSIGNEE(S): Sun Bio, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 16 pp., Cont.-in-part of U.S. Ser. No. 303,260.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C08G065-00
US PATENT CLASSIF.: 528230000; 528250000
CLASSIFICATION: 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004034188	A1	20040219	US 2003-431294	20030507
US 6916962	B2	20050712		
KR 2003048293	A	20030619	KR 2001-78244	20011211
US 2003153694	A1	20030814	US 2002-303260	20021125
US 2004122164	A1	20040624	US 2003-661268	20030912
US 2004147687	A1	20040729	US 2003-715607	20031118 <--

PRIORITY APPLN. INFO.:

KR 2001-78244	A	20011211
US 2002-348452P	P	20020116
US 2002-381503P	P	20020517
US 2002-407741P	P	20020903
US 2002-303260	A2	20021125
US 2003-431294	A2	20030507
US 2003-661268	A2	20030912

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004034188	ICM	C08G065-00
	INCL	528230000; 528250000
US 2004034188	NCL	528/230.000; 528/250.000
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U
US 2003153694	NCL	525/523.000; 558/260.000; 560/157.000; 564/060.000
	ECLA	C08G065/329; C08G065/331; C08G065/333U
US 2004122164	NCL	525/054.100; 528/230.000; 525/526.000
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U
US 2004147687	NCL	525/389.000; 525/403.000
	ECLA	C08G065/324; C08G065/329; C08G065/331; C08G065/333U <--

ABSTRACT:
The present invention provides novel monofunctional polyethylene glycol aldehydes for the pegylation of therapeutically active proteins. The pegylated protein conjugates that are produced, retain a substantial portion of their therapeutic activity and are less immunogenic than the protein from which the conjugate is derived. New syntheses for preparing such aldehydes are described.

SUPPL. TERM: polyethylene glycol aldehyde therapeutic active protein pegylation

INDEX TERM: Polyoxyalkylenes, preparation
ROLE: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(aldehyde derivs.; novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

INDEX TERM: Proteins
ROLE: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pegylation of; novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active

proteins)

INDEX TERM: **544706-95-8P**
ROLE: IMF (Industrial manufacture); PREP (Preparation)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

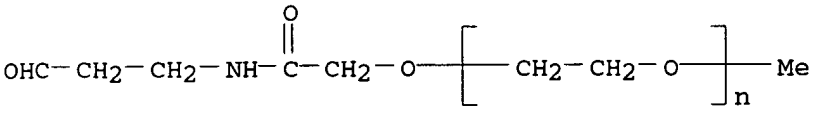
INDEX TERM: **6318-30-5P 58320-73-3P 67665-18-3P**
, Methoxypolyethylene glycol acetic acid **67665-19-4P**
, Methoxypolyethylene glycol ethyl acetate
124661-64-9P 135649-01-3P
146167-55-7P 544706-94-7P
544706-96-9P 544707-00-8P
544707-01-9P 544707-03-1P
544707-04-2P 544707-06-4P
658083-74-0P 658083-75-1P
ROLE: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

INDEX TERM: **314065-74-2DP**, Acrylic acid-ethylene oxide graft copolymer methyl ether, ester with N-hydroxysuccinimide, displacement reaction products with 1-amino-4,4-dimethoxybutane, deacetalized compds. **533881-58-2P**
544706-97-0P 544706-99-2P
544707-02-0P 544707-05-3P
544708-06-7P
ROLE: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

INDEX TERM: **67-64-1**, Acetone, reactions **98-59-9**, Tosyl chloride **105-36-2**, Ethyl bromoacetate
1659-31-0, Di-2-pyridyl carbonate **6066-82-6**
, N-Hydroxysuccinimide **7693-46-1**, 4-Nitrophenyl chloroformate **9004-74-4**, Methoxypolyethylene glycol **14697-46-2**, Pentane-1,2,5-triol
19060-15-2 32315-10-9, Triphosgene
41365-75-7 80506-64-5 125220-94-2
, Methoxypolyethylene glycol propionic acid
152552-24-4, Acrylic acid-methoxypolyethylene glycol graft copolymer **314065-74-2**, Acrylic acid-ethylene oxide graft copolymer methyl ether **314065-74-2D**, Acrylic acid-ethylene oxide graft copolymer methyl ether, ester with N-hydroxysuccinimide
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

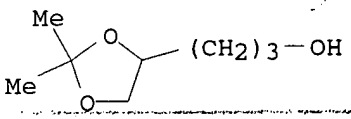
IT **544706-95-8P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

RN 544706-95-8 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-oxo-2-[(3-oxopropyl)amino]ethoxy]- (9CI) (CA INDEX NAME)

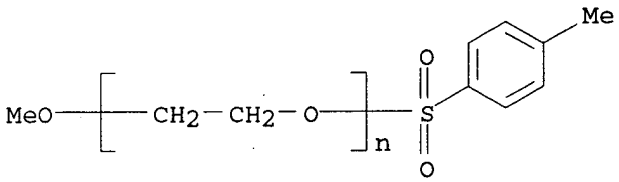


IT **6318-30-5P 58320-73-3P 67665-18-3P,**
Methoxypolyethylene glycol acetic acid **67665-19-4P,**
Methoxypolyethylene glycol ethyl acetate **124661-64-9P**
135649-01-3P 146167-55-7P 544706-94-7P
544706-96-9P 544707-00-8P 544707-01-9P
544707-03-1P 544707-04-2P 544707-06-4P
658083-74-0P 658083-75-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

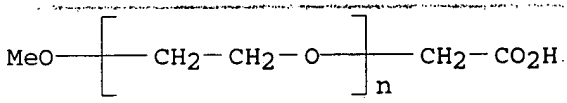
RN 6318-30-5 CAPLUS
CN 1,3-Dioxolane-4-propanol, 2,2-dimethyl- (9CI) (CA INDEX NAME)



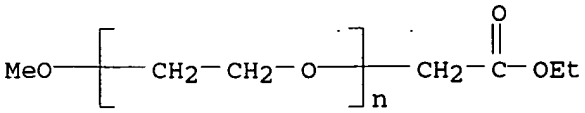
RN 58320-73-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-methylphenyl)sulfonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



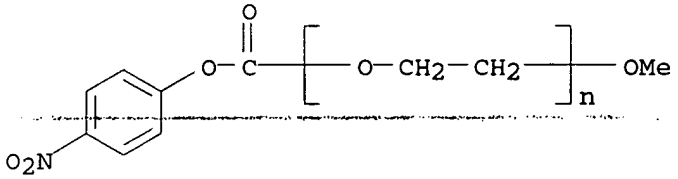
RN 67665-18-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-methoxy- (9CI) (CA INDEX NAME)



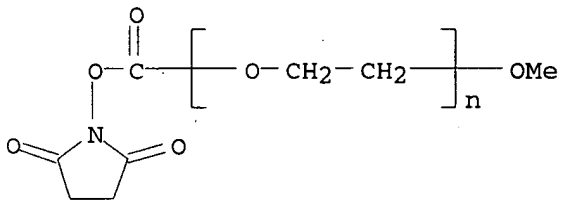
RN 67665-19-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-ethoxy-2-oxoethyl)-ω-methoxy- (9CI) (CA INDEX NAME)



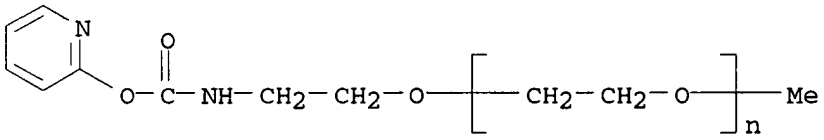
RN 124661-64-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-nitrophenoxy)carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



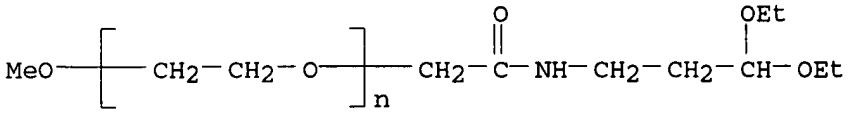
RN 135649-01-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 146167-55-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[(2-pyridinyloxy)carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)

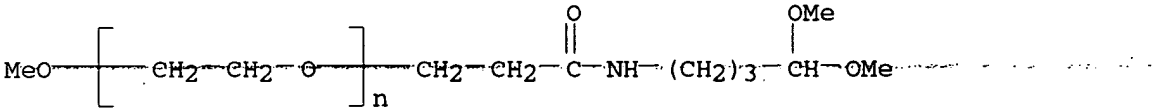


RN 544706-94-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3,3-diethoxypropyl)amino]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

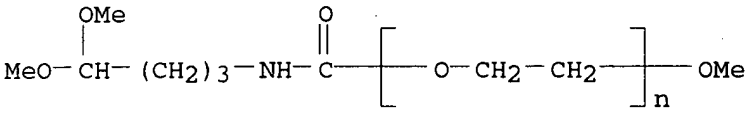


RN 544706-96-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-[(4,4-dimethoxybutyl)amino]-3-

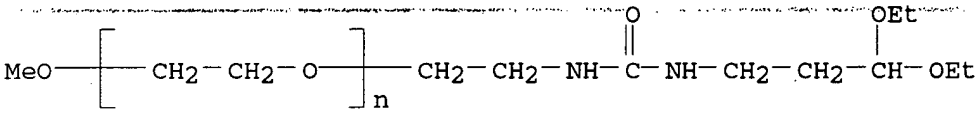
oxopropyl]-ω-methoxy- (9CI) (CA INDEX NAME)



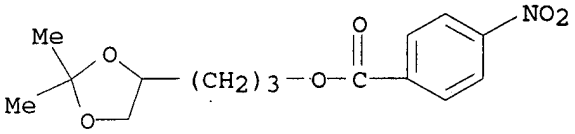
RN 544707-00-8 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4,4-dimethoxybutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



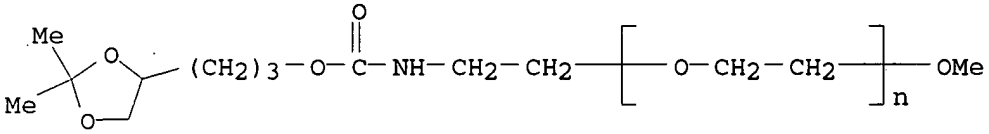
RN 544707-01-9 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[[(3,3-diethoxypropyl)amino]carbonyl]amino]ethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



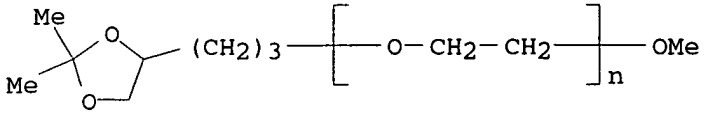
RN 544707-03-1 CAPLUS
CN 1,3-Dioxolane-4-propanol, 2,2-dimethyl-, 4-nitrobenzoate (9CI) (CA INDEX NAME)



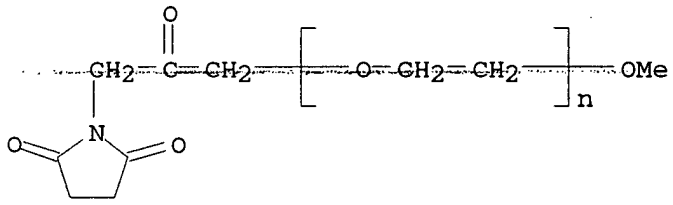
RN 544707-04-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[[3-(2,2-dimethyl-1,3-dioxolan-4-yl)propoxy]carbonyl]amino]ethyl]-ω-methoxy- (9CI) (CA INDEX NAME)



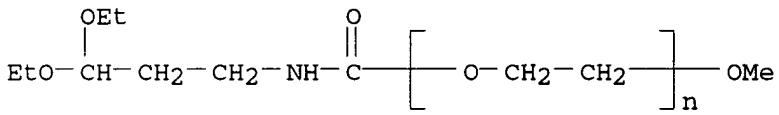
RN 544707-06-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-(2,2-dimethyl-1,3-dioxolan-4-yl)propyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 658083-74-0 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[3-(2,5-dioxo-1-pyrrolidinyl)-2-oxopropyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 658083-75-1 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3,3-diethoxypropyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



IT **314065-74-2DP**, Acrylic acid-ethylene oxide graft copolymer methyl ether, ester with N-hydroxysuccinimide, displacement reaction products with 1-amino-4,4-dimethoxybutane, deacetalized compds.
533881-58-2P 544706-97-0P 544706-99-2P
544707-02-0P 544707-05-3P 544708-06-7P
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)
RN 314065-74-2 CAPLUS
CN 2-Propenoic acid, polymer with oxirane, methyl ether, graft (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1
CMF C H4 O

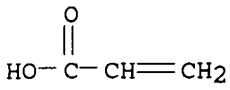
H_3C-OH

CM 2

CRN 112344-11-3
CMF (C3 H4 O2 . C2 H4 O)x
CCI PMS

CM 3

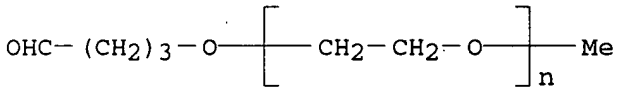
CRN 79-10-7
CMF C3 H4 O2



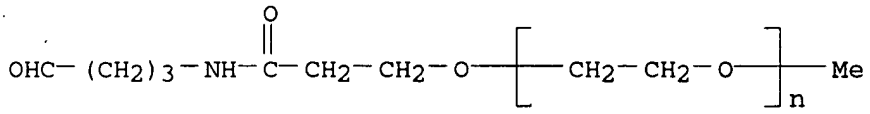
CM 4

CRN 75-21-8
CMF C2 H4 O

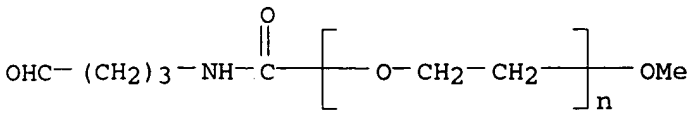
RN 533881-58-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-(4-oxobutoxy)- (9CI) (CA INDEX NAME)



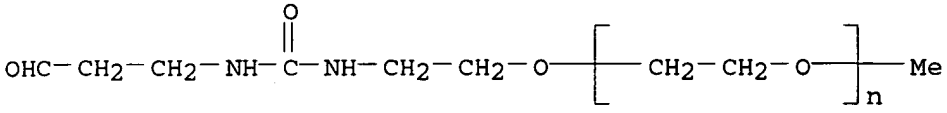
RN 544706-97-0 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[3-oxo-3-[(4-oxobutyl)amino]propoxy]- (9CI) (CA INDEX NAME)



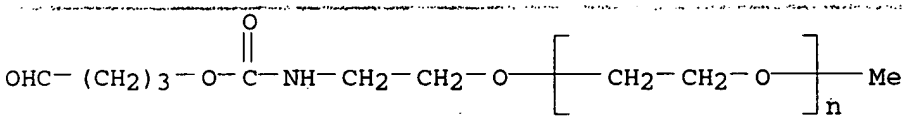
RN 544706-99-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(4-oxobutyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



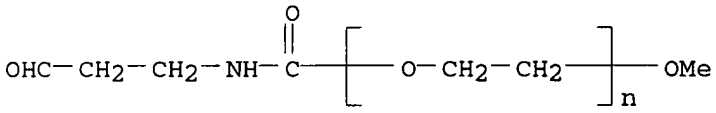
RN 544707-02-0 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[[(3-oxopropyl)amino]carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)



RN 544707-05-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[2-[[(4-oxobutoxy)carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)



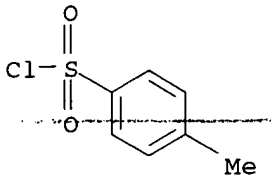
RN 544708-06-7 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3-oxopropyl)amino]carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



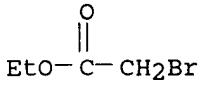
IT **67-64-1**, Acetone, reactions **98-59-9**, Tosyl chloride **105-36-2**, Ethyl bromoacetate **1659-31-0**, Di-2-pyridyl carbonate **6066-82-6**, N-Hydroxysuccinimide **7693-46-1**, 4-Nitrophenyl chloroformate **9004-74-4**, Methoxypolyethylene glycol **14697-46-2**, Pentane-1,2,5-triol **19060-15-2** **32315-10-9**, Triphosgene **41365-75-7** **80506-64-5** **125220-94-2**, Methoxypolyethylene glycol propionic acid **152552-24-4**, Acrylic acid-methoxypolyethylene glycol graft copolymer **314065-74-2**, Acrylic acid-ethylene oxide graft copolymer methyl ether **314065-74-2D**, Acrylic acid-ethylene oxide graft copolymer methyl ether, ester with N-hydroxysuccinimide
RL: RCT (Reactant); RACT (Reactant or reagent)
(novel monofunctional polyethylene glycol aldehydes for pegylation of therapeutically active proteins)

RN 67-64-1 CAPLUS
CN 2-Propanone (9CI) (CA INDEX NAME)

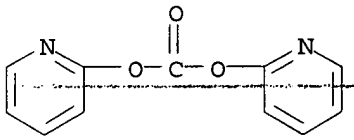
RN ~~98-59-9 CAPLUS~~
CN Benzenesulfonyl chloride, 4-methyl- (9CI) (CA INDEX NAME)



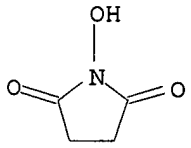
RN 105-36-2 CAPLUS
CN Acetic acid, bromo-, ethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



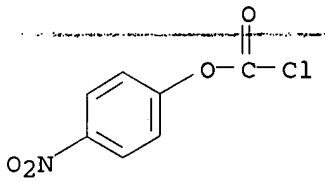
RN 1659-31-0 CAPLUS
CN 2-Pyridinol, carbonate (2:1) (ester) (9CI) (CA INDEX NAME)



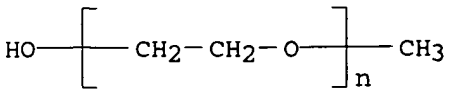
RN 6066-82-6 CAPLUS
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



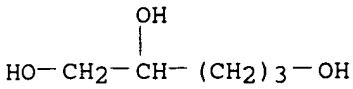
RN 7693-46-1 CAPLUS
CN Carbonochloridic acid, 4-nitrophenyl ester (9CI) (CA INDEX NAME)



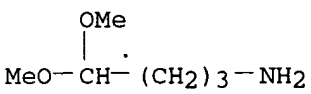
RN 9004-74-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy- (9CI) (CA INDEX NAME)



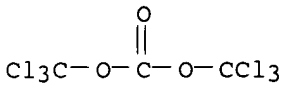
RN 14697-46-2 CAPLUS
CN 1,2,5-Pentanetriol (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



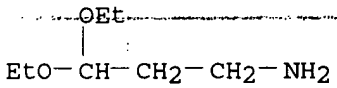
RN 19060-15-2 CAPLUS
CN 1-Butanamine, 4,4-dimethoxy- (9CI) (CA INDEX NAME)



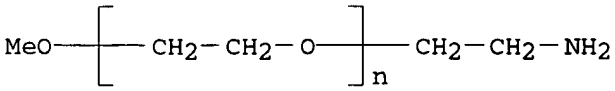
RN 32315-10-9 CAPLUS
CN Methanol, trichloro-, carbonate (2:1) (9CI) (CA INDEX NAME)



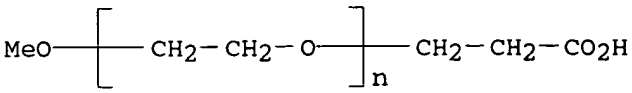
RN 41365-75-7 CAPLUS
CN 1-Propanamine, 3,3-diethoxy- (9CI) (CA INDEX NAME)



RN 80506-64-5 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-aminoethyl)-ω-methoxy- (9CI)
(CA INDEX NAME)



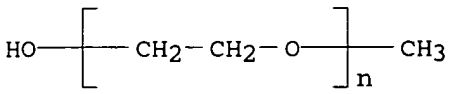
RN 125220-94-2 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(2-carboxyethyl)-ω-methoxy- (9CI)
(CA INDEX NAME)



RN 152552-24-4 CAPLUS
CN 2-Propenoic acid, polymer with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

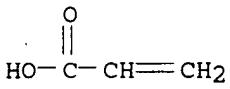
CM 1

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS



CM 2

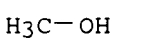
CRN 79-10-7
CMF C3 H4 O2



RN 314065-74-2 CAPLUS
CN 2-Propenoic acid, polymer with oxirane, methyl ether, graft (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1
CMF C H4 O

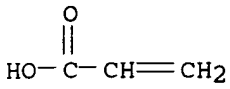


CM 2

CRN 112344-11-3
CMF (C3 H4 O2 . C2 H4 O)x
CCI PMS

CM 3

CRN 79-10-7
CMF C3 H4 O2



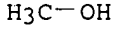
CM 4

CRN 75-21-8
CMF C2 H4 O

RN 314065-74-2 CAPLUS
CN 2-Propenoic acid, polymer with oxirane, methyl ether, graft (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1
CMF C H4 O

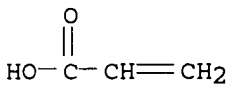


CM 2

CRN 112344-11-3
CMF (C3 H4 O2 . C2 H4 O)x
CCI PMS

CM 3

CRN 79-10-7
CMF C3 H4 O2



CM 4

CRN 75-21-8
CMF C2 H4 O